



**Department of Energy**  
**National Nuclear Security Administration**  
Washington, DC 20585

April 26, 2006

OFFICE OF THE ADMINISTRATOR

The Honorable A.J. Eggenberger  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, N.W., Suite 700  
Washington, D.C. 20004-2901

Dear Mr. Chairman:

In your letter of November 28, 2005, you requested a report and briefing within 60 days on additional actions that will be taken to address concerns over the review and assessment approach being applied by the NNSA Nevada Site Office (NSO) to the Device Assembly Facility (DAF) at the Nevada Test Site (NTS). The Board expressed concern with reliance upon the DAF Safety Basis Implementation Plan (SBIP) coupled with the readiness review process to ensure the adequacy of safety management programs and vital safety systems. In light of future activities that are either planned (e.g., Criticality Experiments Facility) or being considered for the DAF, the Board advised that NNSA reconsider the current strategy and adopt a more proactive and comprehensive approach.

The Board was provided a briefing on February 1, 2006. Based on feedback at the briefing and discussions with NNSA Headquarters staff and NSO management, clarification was received on the Board's concerns. The enclosed report from NSO describes the planned actions, including phased assessments of all DAF safety management programs and vital safety systems, which will lead to improvements in the federal oversight and assessment program. I believe that these actions are responsive to the Board's concerns for a more proactive and comprehensive approach.

If you have any questions, please contact me, or have your staff contact Mike Thompson of my office at (301) 903-5648 or R. T. Brock, Nevada Site Office, at (702) 295-0892.

Sincerely,

A handwritten signature in black ink, appearing to read "LFB".

Linton F. Brooks  
Administrator

Enclosure

cc: M. Whitaker, DR-1  
K. Carlson, NSO



Printed with soy ink on recycled paper



**Department of Energy**  
National Nuclear Security Administration  
Nevada Site Office  
P.O. Box 98518  
Las Vegas, NV 89193-8518



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Linton F. Brooks, Administrator for the National Nuclear Security Administration, NNSA/HQ  
(NA-1) FORS

**THE NNSA NEVADA SITE OFFICE (NNSA/NSO) ASSESSMENT APPROACH FOR THE  
DEVICE ASSEMBLY FACILITY (DAF)**

Reference Defense Nuclear Facilities Safety Board (DNFSB) letter dated November 28, 2005,  
subject as above.

In the above referenced letter, the Defense Nuclear Facilities Safety Board (Board) expressed concerns with the review and assessment approach being applied to the DAF at the Nevada Test Site (NTS). The Board expressed concern with reliance upon the DAF Safety Basis Implementation Plan (SBIP) coupled with the readiness review process to ensure the adequacy of safety management programs and vital safety systems. The Board cited examples of deficiencies that were identified outside either the SBIP or readiness review process. The manner in which the deficiencies were identified and the nature and extent of the deficiencies were cited as illustrating the limitations of the SBIP and readiness review process in assessing and ensuring fully compliant safety management programs and reliable vital safety systems. As indicated in the DNFSB letter, the NNSA/NSO federal oversight program has not developed as indicated by the prior NNSA response (Reference: February 8, 2005, response from NNSA to the Board). In light of future activities that are either planned (e.g., Criticality Experiments Facility) or being considered for the DAF, the Board recommended NNSA "reconsider the current strategy and adopt a more proactive and comprehensive approach." We are in agreement with the observations and recommendation in the Board letter.

On February 1, 2006, NNSA/NSO provided a briefing to the Board on actions planned to address the concerns raised in the November 28, 2005, letter. The briefing was beneficial because the Board and key staff clarified the extent of several concerns. In response to the feedback received during the briefing, we have revised our proposed corrective actions. Our actions are now specifically focused on DAF safety management programs and vital safety systems. Our planned actions now extend well beyond those previously formulated and are intended to systematically and comprehensively address the Board concerns, several of which were characterized as "long-standing."

NNSA/NSO will conduct a series of assessments at the DAF to determine the level of compliance and performance of safety management programs. The assessments will be performed using a traditional "Phase I" and "Phase II" review approach:

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- Phase I will consist of documentation reviews to verify the adequacy of flow-down and implementation of DOE directives and regulations applicable to each safety management program. Facility-related plans, procedures, work packages, and other implementing documents will be reviewed as part of the Phase I assessments.
- Phase II assessments will consist of field observations of activities performed at DAF to determine the adequacy and level of performance associated with each safety management program. Interviews of DAF personnel, including support personnel in key areas such as maintenance, will be an integral component of the Phase II assessments. The interviews will be used to gauge the knowledge and understanding of program and process requirements by facility personnel.

Attachment 1 lists each of the safety management programs that will be assessed and identifies the governing DOE regulations or directives against which compliance and performance will be evaluated. The assessments will be conducted primarily using NNSA/NSO staff and management, augmented by the NNSA Service Center or technical subcontract personnel in functional areas where NNSA/NSO expertise is limited. These assessments will begin in the 3rd quarter of fiscal year (FY) 2006 and be completed by the end of the 1st quarter FY 2007.

With respect to the vital safety systems, NNSA/NSO will use the following approach:

- Phase I - The first phase will involve compilation and review of existing design documentation. This includes drawings, system description documents, design calculations, fabrication or installation test, maintenance, and inspection records.
- Phase II - The second phase will involve field verification (via physical walk-down) to validate the accuracy and completeness of the design information.
- Phase III - The third phase will involve a review of the adequacy of each system's existing design and operational history in meeting safety performance requirements derived through formal hazard and accident analysis (i.e., the DAF documented safety analysis).
- Phase IV - If the Phase III review indicates design changes are required to achieve an acceptable level of safety performance, capital projects will be scoped and initiated for such upgrades. If the system provides an adequate level of safety performance, no design changes will be required. Any inconsistencies between the system design and performance capabilities and the DAF safety documentation will be corrected.

Phases I, II, and III will each result in a written report for each vital safety system. Phase IV may result in a formal report dependent upon the outcome of the Phase III review (i.e., if a proposed capital project for improvements or changes is needed). The reviews will be prioritized and sequenced to ensure each vital safety system is assessed based on its relative level of safety importance and whether the structures, systems, and components (SSC) are active or passive. For example, active safety class (SC) SSC will be assessed first; followed by passive SC SSC; followed by active safety significant (SS) SSC; and then passive SS SSC. Other defense-in-

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depth SSC meeting vital safety system criteria (as defined in the prior DOE Implementation Plan for DNFSB Recommendation 2000-2, *Vital Safety Systems*) will be assessed last. Reviews of the SC SSC will be completed by the end of FY 2006. Reviews of SS SSC will be completed by the end of 1st quarter FY 2007. Reviews of other defense-in-depth SSC meeting vital safety system criteria will be completed by the end of 2nd quarter FY 2007.

Personnel used to conduct these reviews of vital safety systems may include NNSA/NSO staff, NNSA Service Center staff, NNSA or DOE Headquarters staff, or experts external to DOE and NNSA. The latter may include personnel from other management and operating contractors, national laboratories, or private industry dependent upon the type and level of expertise needed.

We believe the actions described above are responsive to the concerns raised by the Board. When completed, these reviews will firmly establish a compliance and performance "baseline" for DAF. The changes to our overall assessment program that we previously described in our January 12, 2006, response to you, can then be used to periodically re-evaluate the level of continuing compliance and performance with DOE requirements.

If you have any questions or require additional information, please contact me at (702) 295-3211 or R. T. Brock at (702) 295-0892.



Kathleen A. Carlson  
Manager

AMSP:RTB-6209  
DEF 04-04

Attachment:  
As stated

**Attachment 1**

<b>Safety Management Program (Functional Area)</b>	<b>Governing Source(s) of Requirements</b>	<b>Adopted Standards &amp; Guides for Determining Adequacy of Compliance &amp; Performance</b>
Conduct of Operations, including: <ul style="list-style-type: none"> <li>• Occurrence reporting</li> </ul>	DOE O 5480.19 DOE M 231.1-2	DOE-STD-1029-92 DOE-STD-1030-96 DOE-STD-1031-92 DOE-STD-1032-92 DOE-STD-1033-93 DOE-STD-1034-93 DOE-STD-1035-93 DOE-STD-1036-93 DOE-STD-1037-93 DOE-STD-1038-93 DOE-STD-1039-93 DOE-STD-1040-93 DOE-STD-1041-93 DOE-STD-1042-93 DOE-STD-1043-93 DOE-STD-1044-93 DOE-STD-1045-93
Criticality Safety	DOE O 420.1B	DOE-STD-1134-99 DOE-STD-3007-93 DOE G 421.1-1 ANSI/ANS-8.1-1983 ANSI/ANS-8.3-1986 ANSI/ANS-8.6-1983 ANSI/ANS-8.7-1975 ANSI/ANS-8.10-1983 ANSI/ANS-8.12-1987 ANSI/ANS-8.19-1984
Emergency Preparedness	DOE O 151.1B DOE N 153.2 NSO M 151.1-1	DOE G 151.1 DOE-STD-1099-96
Explosives Safety	DOE O 420.1B DOE M 440.1-1	
Fire Protection	DOE O 420.1B	DOE G 440.1-5 DOE-STD-1066-99 DOE-STD-1088-95
Maintenance	DOE O 433.1	DOE G 433.1-1 DOE-HDBK-1169-2003

Safety Management Program (Functional Area)	Governing Source(s) of Requirements	Adopted Standards & Guides for Determining Adequacy of Compliance & Performance
Nuclear Explosive Safety	DOE O 452.1B DOE O 452.2B NSO O 450.X5 NSO O 450.X6 NSO O 452.2B	DOE-STD-3015-2004 DOE-DP-STD-3016-99
Occupational Safety & Health, including: <ul style="list-style-type: none"> <li>• Hoisting &amp; Rigging</li> <li>• Hazardous Materials</li> </ul>	29 CFR 1910 & 1926 DOE O 440.1A NSO O 440.1 NSO P 440.X NSO O 440.X	DOE G 440.1-2 DOE G 440.1-3 DOE G 440.1-4 DOE G 440.1-7A DOE-STD-1149-2002 DOE-STD-6005-01
Quality Assurance, including: <ul style="list-style-type: none"> <li>• Procedures</li> <li>• Configuration Management</li> </ul>	10 CFR 830.120-122 DOE O 414.1C DOE N 203.1 NSO P 414.1 DOE O 420.1B	DOE G 414.1-1A DOE G 414.1-2A DOE G 414.1-3 DOE G 414.1-4 DOE G 200.1-1 DOE-STD-1073-2003
Radiation Protection	10 CFR 835	DOE G 441.1-1A DOE G 441.1-2 DOE G 441.1-3A DOE G 441.1-4A DOE G 441.1-5 DOE G 441.1-6 DOE G 441.1-7 DOE G 441.1-8 DOE G 441.1-9 DOE G 441.1-10 DOE G 441.1-11 DOE G 441.1-12 DOE G 441.1-13
Radioactive Waste Management	DOE O 435.1 DOE M 435.1-1 NSO M 435.1-1	DOE G 435.1-1

<b>Safety Management Program (Functional Area)</b>	<b>Governing Source(s) of Requirements</b>	<b>Adopted Standards &amp; Guides for Determining Adequacy of Compliance &amp; Performance</b>
Safety Basis	10 CFR 830.200-207	DOE-STD-1027-92 DOE-STD-1186-2004 DOE-STD-3009-94 DOE-HDBK-3010-94 DOE-STD-3014-96 DOE G 421.1-2 DOE G 423.1-1 DOE G 424.1-1
Training & Qualification	DOE O 5480.20A	DOE-STD-1070-94 DOE-STD-1074-95 DOE-STD-1076-94 DOE-HDBK-1078-94 DOE-HDBK-1080-97 DOE-HDBK-1103-96